

WHAT IS CLAIMED IS:

1. A method of forming a liquid crystal layer on a substrate having a sealed pattern, comprising:

preparing a liquid crystal material in a projecting portion;

applying a vibration and pressure to the projecting portion so as to emit the liquid crystal material from the projecting portion; and

depositing the emitted liquid crystal material on the substrate.

2. The method according to claim 1, wherein the projecting portion has a nozzle plate containing a plurality of orifices, said nozzle plate adjusting the applied pressure for emitting the liquid crystal material, said liquid crystal material being emitted through the plurality of orifices.

3. The method according to claim 1, wherein the substrate moves in one direction while the liquid crystal material is being deposited thereon.

4. The method according to claim 1, wherein the liquid crystal material is emitted and deposited in a vacuum chamber.

5. The method according to claim 1, wherein the vibration is generated by a voltage applied to a resonator.

TOS221-E12482001

6. The method according to claim 5, wherein the generated vibration is transmitted to the projecting portion through a resonating plate.

7. The method according to claim 1, wherein the substrate has a black matrix under the sealed pattern.

8. The method according to claim 7, wherein the liquid crystal material start and stop is deposited on the black matrix.

9. An apparatus of forming a liquid crystal layer on a substrate having a seal pattern, comprising:

a projecting portion having a liquid crystal material;

a resonator for generating a vibration; and

a resonating plate for transmitting the vibration to the projecting portion.

10. The apparatus according to claim 9, wherein the projecting portion has a nozzle plate containing a plurality of orifices, the nozzle plate adjusting the applied pressure for emitting the liquid crystal material, the liquid crystal material being emitted through said plurality of orifices.

11. The apparatus according to claim 9 wherein the substrate is mounted on a stage.

12. The apparatus according to claim 11, wherein means are provided for moving the stage.

13. The apparatus according to claim 9, further comprising a vacuum chamber for encompassing the projecting portion, the resonator and the resonating plate.

14. The method according to claim 9, wherein voltage means are provided for generating vibration in the resonator.